

DETAILED ACTION

Response to Amendment

1. The amendment, filed 6/24/2009, has been entered and made of record. Claims 1-7 are pending in the application.

Response to Arguments

1. Applicant's arguments regarding the examiner's U.S.C. 101 rejection have been fully considered but they are not persuasive.

The examiner submits that the amended claim is non-statutory subject matter as a program per se is still recited.

2. Applicant's arguments with respect to claims 1-7 and the Ohkawara et al. reference have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkawara et al. (US 2001/0048479) in view of Lee et al. (US # 5,614,951).

As to claim 1, Ohkawara et al. teaches an autofocus-control device (Figure 5) including a focus lens (Figure 5, focus-compensation lens “105”) and an image-pickup sensor (Figure 5, CCD “106”), the autofocus-control device comprising: image-pickup means for picking up an image of a subject in a cycle that is (1/integer N) times a cycle of an image-vertical-synchronization signal in synchronization with the cycle of the image-vertical-synchronization signal ([0093]; Figure 21; *{The examiner interprets integer N as 1; meaning, 1 image cycle is performed per vertical-synchronization signal.}*); calculation means (Figure 5, AF evaluation value processing circuit “114”) for calculating a focus-evaluation value for performing an autofocus on the basis of a signal of the image picked up by the image-pickup means ([0076] and [0077]); and change means (Figure 5, AF microcomputer “115”) for changing a distance between the focus lens and the image-pickup sensor ([0077], Lines 1-12), wherein the change means changes the distance so that integer-A times of the cycle of the image-vertical-synchronization signal and integer-B times of a wobbling cycle are synchronized with each other when integer A and integer B satisfy $2 \times B > A$ ([0093]; Figure 21; *{According to passage [0093], the focus control is synchronized with the vertical synchronization interval. The focus control routine of Figure 21 clearly shows wobbling performed at step 701. Let us assume that}*

during 1 vertical synchronization cycle (making A = 1), wobbling is performed B times where B is any integer 1 or greater. For the sake of argument, let us assume wobbling is performed one time, making B = 1. 2 x B > A is satisfied (2 x 1 > 1; 2 > 1).}). The claim differs from Ohkawara et al. in that it further requires that the change means changes a distance between the focus lens and the image-pickup sensor on the basis of a plurality of focus evaluation values calculated at different focus-lens positions.

In the same field of endeavor, Lee et al. teaches a hill-climbing autofocus method for a video camera wherein present focus evaluation data and previous focus evaluation are taken into account in order to determine a speed (distance as will be discussed later) to move the focus lens to its next focus position (Figure 7; Figure 6; *{The examiner submits that while Lee et al. only discloses that the speed is varied according to the focus evaluation data, this variation of speed also results in a variation of the distance as seen in Figure 6.}.*) In light of the teaching of Lee et al., it would have been obvious to one of ordinary skill in the art to include replace the hill-climbing method of Ohkawara et al. with the hill climbing method of Lee et al., because an artisan of ordinary skill in the art would recognize that this method would allow for the object to be focused at high speed (Col. 7, Lines 8-16) and also prevent overshoot of the peak value (Col. 3, Lines 34-45).

Remarks about the rejection of claim 1: After combining Ohkawara et al. with Lee et al., the resultant method can be seen in Figure 21 of Ohkawara et al. with the exception that Lee et al.'s hill climbing method is substituted for the hill-climbing method (steps 703-706) of Ohkawara et al. Furthermore, the examiner submits that the limitation, "...wherein the

change means changes the distance so that integer-A times of the cycle of the image-vertical-synchronization signal and integer-B times of a wobbling cycle are synchronized with each other when integer A and integer B satisfy $2 \times B > A$.”, is met. Since adding the method of Lee et al. to Figure 21 of Ohkawara et al. would not alter the wobbling step or the vertical synchronization signal.

As to claim 2, Ohkawara et al., as modified by Lee et al., teaches the autofocus-control device according to claim 1, wherein the calculation means calculates the focus-evaluation value on the basis of a high-frequency component of a brightness signal of the image-pickup signal ([0076]).

As to claim 3, Ohkawara et al., as modified by Lee et al., teaches the autofocus-control device according to claim 1, further comprising merge means for merging a plurality of the signals of a plurality of the images picked up by the image-pickup means ([0074], Lines 1-4).

As to claim 5, claim 5 is a method claim corresponding to the apparatus claim 1. Therefore, claim 5 is analyzed and rejected as previously discussed with respect to claim 1.

As to claim 6 and 7, in light of the disclosure of a system controller of Figure 5 controlling the focus and zooming routines of Ohkawara et al., claims 6 and 7 are rejected as previously discussed with respect to claim 1.

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkawara et al. (US 2001/0048479) in view of Lee et al. (US # 5,614,951) in view of Voss et al. (7,193,647).

As to claim 4, Ohkawara et al., as modified by Lee et al., teaches an autofocus-control device according to claim 1. The claim differs from Ohkawara et al., as modified by Lee et al., in that it further requires selection means for selecting any one of a plurality of the signals of a plurality of the images picked up by the image-pickup means.

In the same field of endeavor, Voss et al. teaches an imaging apparatus including a photosensor array which outputs a video stream. A user utilizing the imaging apparatus can operate a shutter button to select a still image frame from the video stream and store the still image frame in memory (Figure 2; Col. 5, Lines 1-9). In light of the teaching of Voss et al., it would have been obvious to one of ordinary skill in the art to include the operation of Voss et al. in the camera of Ohkawara et al., because an artisan of ordinary skill in the art would recognize that this would allow the user to acquire a video sequence and a desired still image without having to switch modes and lose the desired still image (see Voss et al., Col. 1, Lines 45-52).

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. DANIELS whose telephone number is (571)272-7362. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD
10/20/2009

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